Amendments to the Claims

Please cancel Claims 2, 6 and 7.

Please amend the claims as follows:

1 (currently amended). A method for stabilizing the temperature of at least one optically active components, comprising the steps of:

- determining the input power of ~~the~~ an interacting energy ~~interacting~~ with the optically active component for deflecting a light beam, wherein the interacting energy is a drive energy of the optically active component and the light beam that interacts with the optically active component; and
- switching the drive energy to a non-deflecting energy interacting with the optically active component; and, ~~and thereby~~ maintaining the interacting energy~~average input power~~ at a constant level.

2 (canceled).

3 (currently amended). The method as defined in Claim 1, characterized in that the interacting energy that interacts with the optically active component is varied.

4 (original). The method as defined in Claim 1, characterized in that a temperature sensor is provide with to the optically active component.

5 (amended). The method as defined in Claim 1, characterized in that the measurement of the temperature of the optically active component is accomplished by way of the ~~latter's~~ optical properties of said optically active component, said properties ~~preceded by suitable calibration~~ of said optically active component calibrated prior to temperature measurement. ~~s for the purpose.~~

6 (canceled).

7 (canceled).

8 (currently amended). An apparatus for stabilizing the temperature of an optically active component comprises:

- means for determining the input power of the energy interacting with the optically active component for deflecting a light beam, wherein the interacting energy is a drive energy of the optically active component;~~and~~
- means for switching the drive energy to a non-deflecting energy interacting with the optically active component; and,
- means for maintaining the interacting energy ~~thereby maintaining the average input power~~ at a constant level.

9 (currently amended). The apparatus as defined in Claim 8, characterized in that the means for maintaining the interacting energy at a constant level is a control loop. ~~optically active component consists essentially of a dichroic beam splitter, an acoustooptical tunable filter (AOTF), an acoustooptical beam splitter (AOBS), an acoustooptical modulator (AOM), an acoustooptical deflector (AOD), or an electrooptical modulator (EOM).~~

10 (currently amended). The apparatus as defined in Claim 9~~8~~, characterized in that said control loop comprises a temperature sensor and said temperature sensor is secured to said optically active component. ~~the optically active component provides one wavelength of a light beam for further use.~~

11 (currently amended). The apparatus as defined in Claim 8, characterized in that the optically active component comprises a dichroic beam splitter, an acoustooptical tunable filter (AOTF) and acoustooptical beam splitter (AOBS), an acoustooptical modulator

(AOM), an acoustooptical deflector (AOD) or an electrooptical modulator (EOM). ~~modifies the intensity of the light beam.~~

12 (currently amended). The apparatus as defined in Claim 11~~8~~, characterized in that the optically active component provides one wavelength of a light beam for further use. ~~deflects at least one light beam.~~

13 (currently amended). The apparatus as defined in Claim 11~~12~~, characterized in that the optically active component modifies the intensity of a light beam. ~~an interruption of the light beam is accomplished with a beam interruption system arranged after the optically active component, for example in the form of a shutter.~~

14 (currently amended). The apparatus as defined in Claim 8, characterized in that a beam interruption system is arranged after the optically active component. ~~temperature sensor being attached to the optically active component.~~

15 (currently amended). A scanning microscope, comprising:

- a light source defining a light beam,
- a dichroic beam splitter for directing the light beam to a scanning device and via a optical system to a specimen
- an optically active component being arranged in the path of the light beam,
- a control loop for determining the input power of the energy interacting with the optically active component for maintaining the interacting energy at a constant level, wherein the interacting energy is a drive energy of the optically active component and the light beam that interacts with the optically active component; and, ~~means for determining the input power of the energy interacting with the optically active component, and~~
- means for switching to a non-deflecting energy interacting with the optically active component and thereby maintaining the average input power at a constant level.

16 (currently amended). The scanning microscope as defined in Claim 15, characterized in that the optically active component consists essentially of ~~a dichroic beam splitter,~~ an acoustooptical tunable filter (AOTF), an acoustooptical beam splitter (AOBS), an acoustooptical modulator (AOM), an acoustooptical deflector (AOD), or an electrooptical modulator (EOM).

17 (currently amended). The scanning microscope as defined in Claim 16~~5~~, characterized in that the optically active component provides one wavelength to be coupled into or out of the scanning microscope.

18 (currently amended). The scanning microscope as defined in Claim 16~~5~~, characterized in that the optically active component modifies the intensity of the light beam to be coupled into or out of the scanning microscope.

19 (currently amended). The scanning microscope as defined in Claim 16~~5~~, characterized in that the optically active component deflects at least one light beam.

20 (currently amended). The scanning microscope as defined in Claim 16~~5~~, characterized in that the optically active component is adjustable so that ~~the~~ influencing of the light beam is thereby effective selectively on light of at least one wavelength and/or on light in at least one polarization state.

21 (currently amended). The scanning microscope as defined in Claim 16~~5~~, characterized in that ~~the~~ influencing of the light beam is synchronized with a measurement operation and/or illumination operation of the scanning microscope.

22 (original). The scanning microscope as defined in Claim 21, characterized in that the optically active component is impinged upon by the interaction energy even when no

measurement operation and/or illumination operation is being accomplished with the scanning microscope.

23 (currently amended). The apparatus as defined in Claim 22, characterized in that in order to couple in a specific wavelength of the light beam, ~~the~~an acoustooptical beam splitter (AOBS) or acoustooptical tunable filter (AOTF) is impinged upon by a frequency of the drive energy that corresponds to the wavelength that is to be coupled in.

24 (currently amended). The apparatus as defined in Claim 22, characterized in that if no light is being coupled in, ~~the~~ an acoustooptical beam splitter (AOBS) or acoustooptical tunable filter (AOTF) is nevertheless impinged upon by a frequency of the drive energy that does not correspond to any of the available light wavelengths.

25 (currently amended). The apparatus as defined in Claim 22, characterized in that the acoustooptical beam splitter (AOBS) or acoustooptical tunable filter (AOTF) is impinged upon by a frequency of the drive energy that corresponds to none of the light wavelengths being used for scanning with the ~~confocal~~ scanning microscope.

26 (currently amended). The apparatus as defined in Claim 22, characterized in that the light that is not coupled into the scanning microscope is absorbed with the aid of a beam trap.

27 (currently amended). The apparatus as defined in Claim 15, characterized in that a beam interruption system is arranged after the optically active element. ~~an interruption of the light beam is accomplished with a beam interruption system arranged after optically active the component, for example in the form of a shutter.~~

28 (currently amended). The apparatus as defined in Claim 27~~15~~, characterized in that said beam interruption system comprises a shutter. ~~a temperature sensor being attached to the optically active component.~~

29. (new) The apparatus as defined in Claim 15 characterized in that said control loop comprises a temperature sensor secured to said optically active component

30. (new) The apparatus as defined in Claim 14 wherein said beam interruption system comprises a shutter.